To: Myers, Craig[Myers.Craig@epa.gov]
Cc: Peronard, Paul[Peronard.Paul@epa.gov]; Merritt, Steven[Merritt.Steven@epa.gov]
From: Cristiano, Gina
Sent: Fri 6/5/2015 3:11:52 PM
Subject: RE: Hazmat ID

Oh yeah, I think you and I talked about the need to concentrate samples not long ago (when water program asked what they should tell operators to sample for). And that's funny about the anthrax too…maybe with an SES'er on the CMAT there will be better coordination with ORD ☺ Though I thought EPA's whole focus on anthrax was interesting when FBI (Dave Autry) was telling everyone they didn't care too much about it because of the difficulty with obtaining it. Really makes one wonder what ORD is up to.

Regarding START, maybe some of the drills can incorporate use of these tools and/or maybe in the future we develop a drill that is focused on an unknown. For example, the evaluator poses a scenario and the START person has to choose a piece of equipment he/she thinks will work to identify or help quantify the threat? If they show an ability to think through the issues and give helpful assessment/advice, then they pass…if they give the deer in the headlights, they fail.

Happy Friday everyone…hope you're drying out after last night's storm!!

From: Myers, Craig
Sent: Friday, June 05, 2015 8:19 AM
To: Cristiano, Gina
Cc: Peronard, Paul; Merritt, Steven
Subject: RE: Hazmat ID

It's good to question what ORD is up to. About 8-9 years back, they spent a big pile of money figuring out the distribution pattern of anthrax in a room due to foot traffic tracking it in from outside. They were somewhat disappointed when the OSCs told them that wasn't useful, because we have to clean the whole room anyway. One of the original functions of the NDT was supposed to be an interface between ORD and the OSCs to make sure they were working on useful things over academic projects.

The biggest issue with water systems samples is the volume of water required. ORD was supposed to be working on a field concentrator to reduce/concentrate the sample volume in the field and make it easier to ship samples to the lab. To my knowledge, they never did it.

You're right that the capability exists. Between the Hapsite, IR/Raman Spec, and the XRF, we have a lot of capability to identify unknowns – real time or fast quantification in another thing entirely. Our problem is that START sucks and doesn't know most of it. If the OSCs don't know it better and think of ways to apply the tools, then START isn't going to think of it.

- XRF a high vol particulate filter for a fire plume

- find ways to filter liquid samples and XRF the filter

Semi-vol constituents is really where we lack capability and the only option is rolling a mobile lab. IDK of any portable tech beyond the IR/Raman that can see it.

From: Cristiano, Gina
Sent: Thursday, June 04, 2015 5:37 PM
To: Myers, Craig
Cc: Peronard, Paul; Merritt, Steven
Subject: Re: Hazmat ID

Sorry and my reason for bringing up was because, I thought the DW people said ORD was trying to develop some technology to sample unknowns...my point was that on some level it already existed w hazmat ID.

Sent from my iPhone

On Jun 4, 2015, at 4:26 PM, Myers, Craig <Myers.Craig@epa.gov> wrote:

> Dangers of texting...
>
> Gina asked about an unknown liquid. The hazmat ID system is supposed to do that against the library. Mixtures can flummox it. If we're talking diluted samples in water, IDK how it will work.

If the site experiences used only the HazMat ID and not paired with the Raman Spec unit, it was likely hit or miss. The two units together are much more reliable, as they talk via Bluetooth to compare notes before telling you their opinion. It will still have issues with things that are inherently mixtures, like refined fuels. Environmental contaminants are also going to cause interferences. We're not quite Star Trek yet :)

Sent from my iPhone

On Jun 4, 2015, at 5:09 PM, Peronard, Paul <Peronard.Paul@epa.gov> wrote:

> Hey Gina,
>
> So we brought this thing up to Red River Supply Fire and didn't get much utility out of it. Too many interferences I think. Kerry Guy had a similar experience assisting the Arapahoe County Sherriff at a "compound" of a militia kinda guy (lots of guns, explosives and whatnot) . I imagine if you had a single compound in a fairly neat sample the thing might work well (looking over Smith's Website you'd think 32,000 compounds is impressive), but I got the impression that mixtures (such as in an oily water matrix) give it fits.
>
> Then again that might have been operator error and I would defer to Steve and Craig's higher level of familiarity with the equipment. If this thing can truly identify up to 32,000 compounds and do it with mixtures in a variety of sample matrices then we ought to do a bunch more training with it.
>
> paul